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COTTAGE POLLUTION CONTROL PROGRAM

SHEBANDOWAN LAKES SYSTEM

THUNDER BAY DISTRICT

1976

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Ministry
of the
Environment

L. F. Pitura
Director
Northwestern Region

TD 1976 cottage pollution control
527 program : Shebandowan lakes
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MINISTRY OF THE ENVIRONMENT

1976

COTTAGE POLLUTION CONTROL PROGRAM

SHEBANDOWAN LAKES SYSTEM

THUNDER BAY DISTRICT

Prepared by: D. A. Jones
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Northwestern Region

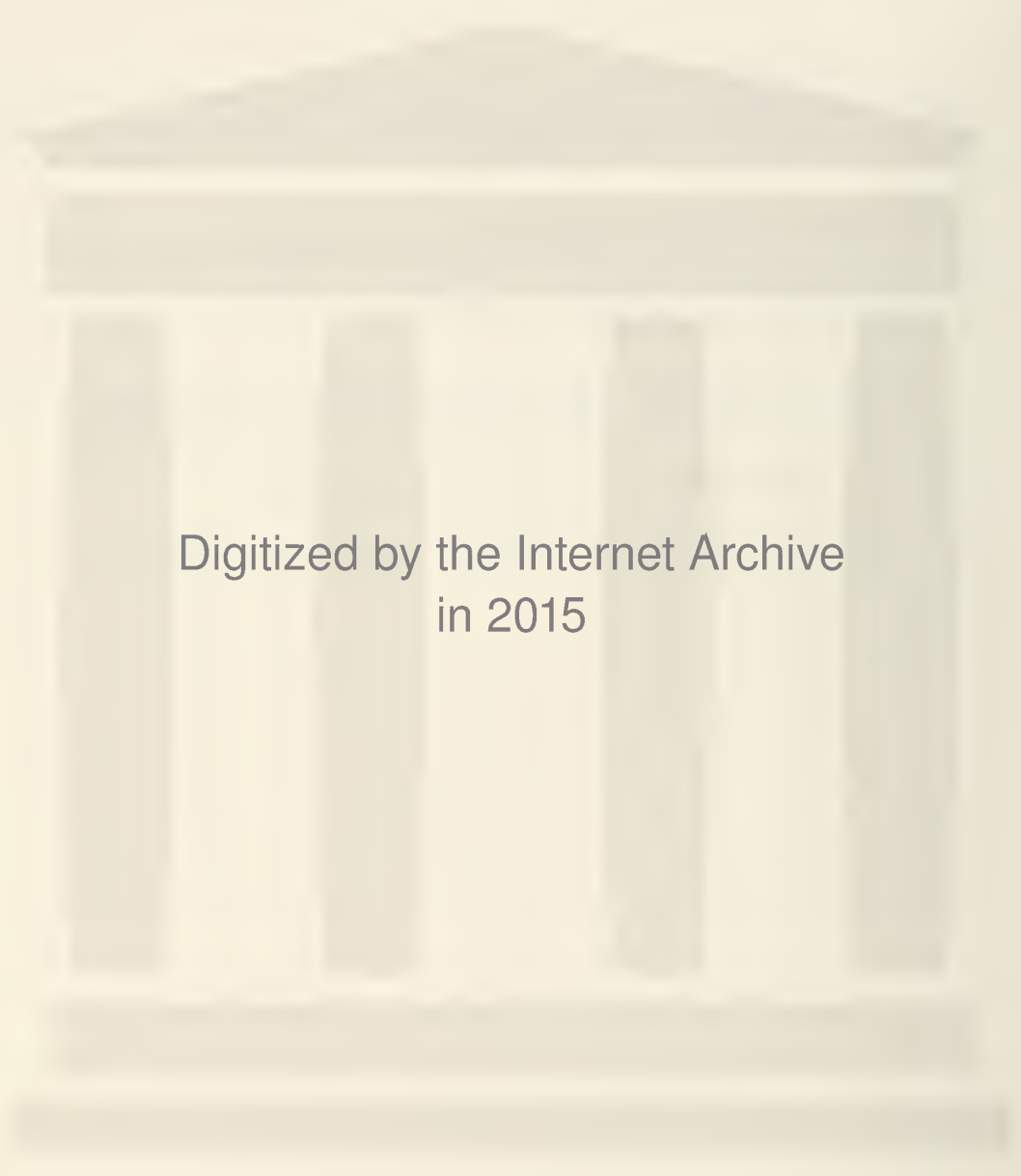
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4. The Shebandowan Campers Association
5. Mr. D. Guerrieri, Middle Lake Shebandowan



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INTRODUCTION

Participation in outdoor recreation throughout North America is on the increase and one of the major developments associated with outdoor recreation is the cottage. It has been estimated that there are approximately 250,000 cottages in Ontario and this number is increasing each year.¹

During the summer of 1976, the Ontario Ministry of the Environment in its continuing Cottage Pollution Control Program and as a result of requests from the Shebandowan Campers Association conducted a survey of all waste disposal systems located on the three Shebandowan Lakes; Upper, Middle and Lower. The program involved the detection of all sewage systems in use, the sampling of drinking water supplies and the determination of the general bacteriological quality of the lakes at the time of the survey.

The Shebandowan Lakes are a chain of three narrow lakes stretching approximately 30 miles in length from east to west. The eastern end of Lower Shebandowan is approximately 50 miles west of Thunder Bay and the lakes are located in the unorganized Townships of Conacher, Hagey and Haines and a portion of Unsurveyed Territory all situate in the District of Thunder Bay. The lakes have a surface area of approximately 14,600 acres and a perimeter of 146 miles. The mean depth is 25 feet with the maximum being 124 feet.

Due to the distance from Thunder Bay and with the cooperation of the Ministry of Natural Resources, a field office was set up at that Ministry's Fire Control Centre at Shelter Bay on Lower Lake Shebandowan. The seven staff members participating in the program commuted daily from Thunder Bay.

1. Ontario Department of Tourism and Information, Analysis of Ontario Cottage Survey, 1968, Travel Research Report No. 55, p.71.



PROCEDURES

The survey commenced during the week of May 17, 1976. During the first week and a half the field office at Shebandowan was set up and preliminary logging of the three lakes was carried out.

The preliminary logging carried out on the lakes by the crew chief consisted of counting the approximate number of establishments, arranging a numerical system of identification for the establishments, identifying prominent cottages on the lake and the writing of detailed physical descriptions of same.

The Lake was then divided into sections of 30 cottages, three of these sections composing a block. Each block was then coded alphabetically clockwise around the perimeter of the lake. Three crews of two staff members each were then assigned a section of 30 cottages and detailed logging was carried out in which consecutive numbers were assigned to each camp and a physical description prepared. Once this had been completed the crew members then started the actual sanitary survey of the particular section they had just logged. This process was repeated on each block of 90 cottages.

The survey of each camp consisted of an interview on site with the owner or his representative to determine the name and address of the owner, a description of all aspects of the camp, i.e., number of bedrooms, type of plumbing fixtures, types of sewage disposal systems and any other information required for the survey data sheet (see Appendix No. 1). In addition, a sketch of the lot was drawn showing the location of all buildings and other features pertinent to the survey, i.e., sewage systems, wells, etc. and their relationship to topographic features and to each other (see Appendix No. 2). Where necessary soil boring was



done to determine the quantity and quality of soil on the lot along with the location of the water table.

Water samples for bacteriological analysis were taken from each drinking water supply except where the water was transported from the cottager's permanent home. Cottagers drinking water directly from the lake were advised of this Ministry's policy regarding the disinfection of all surface drinking water supplies.

A series of control stations were also set up on the lake proper and a bacteriological sample was taken where possible on three consecutive days (see Appendix No. 3 for sample locations and Appendix No. 4 for control sample results).

Additional samples for either bacteriological or chemical analysis to determine if suspect systems were causing contamination were taken after consultation with the program coordinator. Also, dye was available for the same purposes.

Once the above information was gathered the cottages were then classified according to the condition of their waste systems. The numerical classification system was as follows:

1. Satisfactory
2. Satisfactory Performance
3. Substandard
4. Nuisance (Wash Water)
5. Nuisance (Toilet and Solid Waste)
6. Direct Pollutor
7. Unclassified (Temporarily)
8. Unclassified

(Details regarding each classification group can be found in Appendix No. 5)



If the cottage was classified as (3), "Substandard", the owner was told of the deficiencies and asked when possible to correct them. When the cottage was classified from (4) to (6) the owner was asked to sign an agreement with this Ministry to correct the problems outlined by a definite date (Appendix No. 6).

If the camp was repeatedly found vacant, the survey was completed as best as possible and a notice left for the owner to contact the program coordinator (see Appendix No. 7). If after a reasonable length of time the owner still had not contacted the Ministry, the name and address of the registered owner was obtained from the Ministry of Natural Resources, Land Tax section, and the owner was then contacted by telephone or letter.

All of the survey results were checked daily by the program coordinator.

OBSERVATIONS

The total number of establishments surveyed on the three lakes was 466. In addition 143 sub-establishments (definitions, see Appendix No. 8) were surveyed. The breakdown per lake of numbers of establishments and sub-establishments respectively were as follows: Lower Shebandowan, 247 and 73, Middle Shebandowan, 198 and 58, Upper Shebandowan, 21 and 12.

Forty percent of the systems examined were classified as a class "3" designation, either requiring only minor corrections or being undersized for the type of use, although not presenting a problem at the time of the inspection. Approximately 10% of those needing minor corrective work were revisited and it was found that most owners had made the necessary corrections.

As mentioned earlier samples which were taken for bacteriological analyses of drinking water revealed 54 questionable supplies. A source was considered questionable if any of the three indicator parameters of total coliform, fecal coliform or fecal streptococci were present. Upon receipt of a questionable result from the laboratory, the cottage owner was contacted by letter (see Appendix No. 9) and advised to resample immediately. If the second result was positive the owner was advised to disinfect his supply.

The bacteriological samples taken from the lakes during the course of the program showed excellent water quality, sufficient to more than satisfy the Province's water quality objectives for body contact recreational activities. Those areas of the lakes showing slightly higher levels of bacteriological activity were understandably associated with either the densest development areas or where inflow streams entered.

CONCLUSIONS

Response to the program from the public was excellent. The cooperation shown by establishment owners for Ministry staff involved in the program pointed out the increased awareness of the survey participants of potentially environmentally harmful situations to their recreational retreat.

From the data collected, it would appear that the amount of readily traceable inputs entering the Shebandowan Lakes from the existing development is negligible.

APPENDIX NO. 1



ESTABLISHMENT IDENTITY

LAKE OR RIVER No. 7600001 6 7
ESTABLISHMENT SURVEY No. 00777 11
SUB-EST No. 01 12 13
TRANS CODE 01 14 15
DATE OF INSPECTION DAY MONTH YEAR
090816 26

ESTABLISHMENT DESCRIPTION

CARD No. 01 16 17
HYDRO METER No. H7555396 18
ACCESSIBLE BY ROAD Yes ☒ No ☐ 55 56
DATE OF INSPECTION DAY MONTH YEAR
090816 26

LOT SIZE
SO. FT. 500 32
ACRES 5.00 40 41

UNIT OF LOT SIZE
SO. FT. 40 40
ACRES 1 41

USE 1 42
AVERAGE No. OF OCCUPANTS 5.0 43
MAXIMUM 10 47

No. BEDROOMS 1 51
ESTABLISHMENT TYPE 01 53

NAME OF ROAD SHELTER Bay Road

ESTABLISHMENT OWNER

TITLE MR 57
INITIALS TA 61
SURNAME JANSEN 64
TELEPHONE 221-7552 70
IF PERSON INTERVIEWED IS NOT OWNER, NAME No.

- USE
- 1 SUMMER ONLY
 - 2 YEAR ROUND
 - 3 SUMMER/OCCASIONAL WINTER
 - 4 PREDOMINANT WINTER
 - 5 NOT IN USE--CLOSED
 - 6 UNDER CONSTRUCTION

- TYPE OF ESTABLISHMENT
- 01 PRIVATE COTTAGE
 - 02 CABIN ESTABLISHMENT
 - 03 COTTAGE ESTABLISHMENT
 - 04 CAMP
 - 05 PICNIC AREA/PUBLIC PARK
 - 06 MARINA
 - 07 HOTEL/MOTEL
 - 08 RESTAURANT
 - 09 STORE
 - 10 FARMHOUSE
 - 11 CLUB
 - 12 INDUSTRIAL
 - 13 BOATHOUSE
 - 14 PERMANENT HOME
 - 15 CAMPGROUND/TRAILER PARK
 - 16 OTHER

MAILING ADDRESS

CARD No. 02 16 17
OWNER'S PERMANENT MAILING ADDRESS
667 NIPIGON ROAD 18
THUNDER BAY ONTARIO 42
P7C 5G4 66

CLASSIFICATION

- 1 SATISFACTORY PERFORMANCE
- 2 SERIOUSLY SUBSTANDARD
- 4 NUISANCE (WASH WATER)
- 5 NUISANCE (TOILET, SOLID WASTE)
- 6 DIRECT POLLUTER
- 7 UNCLASSIFIED TEMPORARILY
- 8 UNCLASSIFIED

INITIALS AdL

DESCRIPTION OF FACILITIES

CARD No. 03 16 17

FIXTURES & APPLIANCES				TOILETS																	
WASH BASIN	BATH	WASH SHOWER	BATH	STALL SHOWER	KITCHEN SINK	AUTOMATIC DISHWASHER	WASHING MACHINE (Wringer)	WASHING MACHINE (Auto)	LAUNDRY TUB	GARAGE GRINDER	STANDARD FLUSH	URINAL	LOW VOLUME FLUSH	PIT PRIVY	VAULT PRIVY	AQUA PRIVY (Pail-a-day)	INCIN. TOILET-GAS	INCIN. TOILET-ELECT	CHEMICAL TOILET	OTHER (Specify)	
1	1	1	1	1	1	1	1	1	1	1	2										

QUANTITY 18 25 30 35 40

DRINKING WATER

SOURCE OTHER 3 42
SOURCE IMPORTED 3 43
OTHER 3 44
TREATMENT PRIMARY 1 45
OTHER 1 46
LAUNDRY DONE AT COTTAGE YES 1 NO 1 47
PIPED WATER YES 1 NO 1 48
REFUSE PRIMARY 1 OTHER 3 51 52

DRINKING WATER SOURCE

- 1 LAKE
- 2 COTTAGE DUG WELL
- 3 COTTAGE DRILLED WELL
- 4 CISTERN FOR RAINWATER
- 5 MUNICIPAL
- 6 OTHER (SPECIFY)

DRINKING WATER TREATMENT

- 1 NONE
- 2 BOILED OR FILTERED AND BOILED
- 3 FILTERED
- 4 DISINFECTED BY CHLORINE
- 5 DISINFECTED BY OTHER MEANS
- 6 FILTERED AND DISINFECTED BY CHLORINE
- 7 FILTERED AND DISINFECTED BY OTHER MEANS
- 8 OTHER (SPECIFY)

REFUSE

- 1 TO MUNICIPAL DUMP
- 2 TO LOCAL DUMP
- 3 TAKEN HOME
- 4 DEPOSITED IN LAKE
- 5 DEPOSITED ELSEWHERE
- 6 BURIED ON LOT
- 7 BURNED/INCINERATED
- 8 OTHER (SPECIFY)

SLOPE OF LOT GROUND

SLOPE OF LOT GROUND	53	56
0-5% (Flat)	<input checked="" type="checkbox"/>	
5-10% (Moderate)		
10-20% (Mod. Steep)		
>20% (Steep)		

SEPTIC TANKS

CARD No.

04
16 17

TANK No.	1
LIQUID	19
TOTAL	21
CAPACITY	21
GALLONS	1000
YEAR INSTALLED	72
LAST YEAR CLEANED	75
MATERIAL	1
APPROVAL	4
APPROV. AGENCY	1

TILE FIELDS

FIELD No.	2
TOTAL LENGTH OF TILES (FT.)	0375
DISTANCE BETWEEN LINES (FT.)	05
HEIGHT ABOVE LAKE (FT.)	110

BACTERIOLOGICAL SAMPLE RESULTS

CARD No.

05
16 17

TOTAL COLIFORM	18
FAECAL COLIFORM	22
31	31
40	40
49	49
61	61
69	69
71	71

1 to 9 — NORMAL LAKE OR RIVER SHORE SAMPLE No.
D — DRINKING WATER
S — SEWAGE SAMPLE
C — CONTROL SAMPLE

MATERIAL

1 CONCRETE 4 CONC. BLOCK
2 STEEL 5 OTHER (SPECIFY)
3 FIBERGLASS

APPROVAL

1 NO REFERRAL 3 NOT APPROVED
2 REFERRAL NOT YET APPROVED 4 APPROVED

APP. AGENCY

1 HEALTH UNIT
2 MIN. OF ENV
3 MUNICIPAL

EVALUATION OF SYSTEM

CARD No.

06
16 17

DISTANCE TO:	TYPE OF WASTE	CONSTRUCTION	OPERATION	PERFORMANCE
1. ALL MEASUREMENTS ARE SHORTEST DISTANCES 2. MEASUREMENT FROM POINT OF WASTE DISCHARGE ON GROUND SURFACE	LAKE OR RIVER (FEET)	LAKE OR RIVER (FEET)	LAKE OR RIVER (FEET)	LAKE OR RIVER (FEET)
101	100	50	10	1
202	115	65	50	25
18	19	21	24	27
30	32	34	39	42
45				

01 SEPTIC TANK
02 TILE FIELD
03 ON GROUND SURFACE

04 INTO LAKE/RIVER
05 LEACHING PIT
06 PIT PRIVY

07 CESSPOOL
08 HOLDING TANK
09 LAGOON

10 MUNICIPAL
11 REFUSE
12 OTHER (SPECIFY)

RECOMMENDED ACTION AND COMMENTS (BY SUPERVISOR)

CARD No.

08
16 17

CARD No.

16 17

SOIL PROFILE

CARD No.

07
16 17

SOIL TYPES

1 ORGANIC 4 SILT
2 GRAVEL 5 CLAY
3 SAND

HOLE 1
(IN TILE FIELD IF ONE EXISTS)

HOLE 2
(IN TILE FIELD IF ONE EXISTS)

SOIL STRATUM (FT.)	FIRST	NEXT	NEXT	NEXT
50	18	23	28	33
MAINLY COMPOSED OF	20	25	30	35
WITH CONSIDERABLE AMOUNT OF	21	26	31	36
MINOR AMOUNT OF	22	27	32	37
SOIL STRATUM (FT.)	FIRST	NEXT	NEXT	NEXT
42	47	52	57	
MAINLY COMPOSED OF	44	49	54	59
WITH CONSIDERABLE AMOUNT OF	45	50	55	60
MINOR AMOUNT OF	46	51	56	61

DEPTH TO IMPERVIOUS LAYER OR GROUND WATER

91

32

40

SOIL DEPTH RANGE OVER WHOLE PROPERTY FT.

81

TO

91

66

68

SOIL IS

NATURAL

FILL

70

71

INSUFFICIENT SOIL

72

UNSATURABLE SOIL

73

ESTABLISHMENT IDENTITY

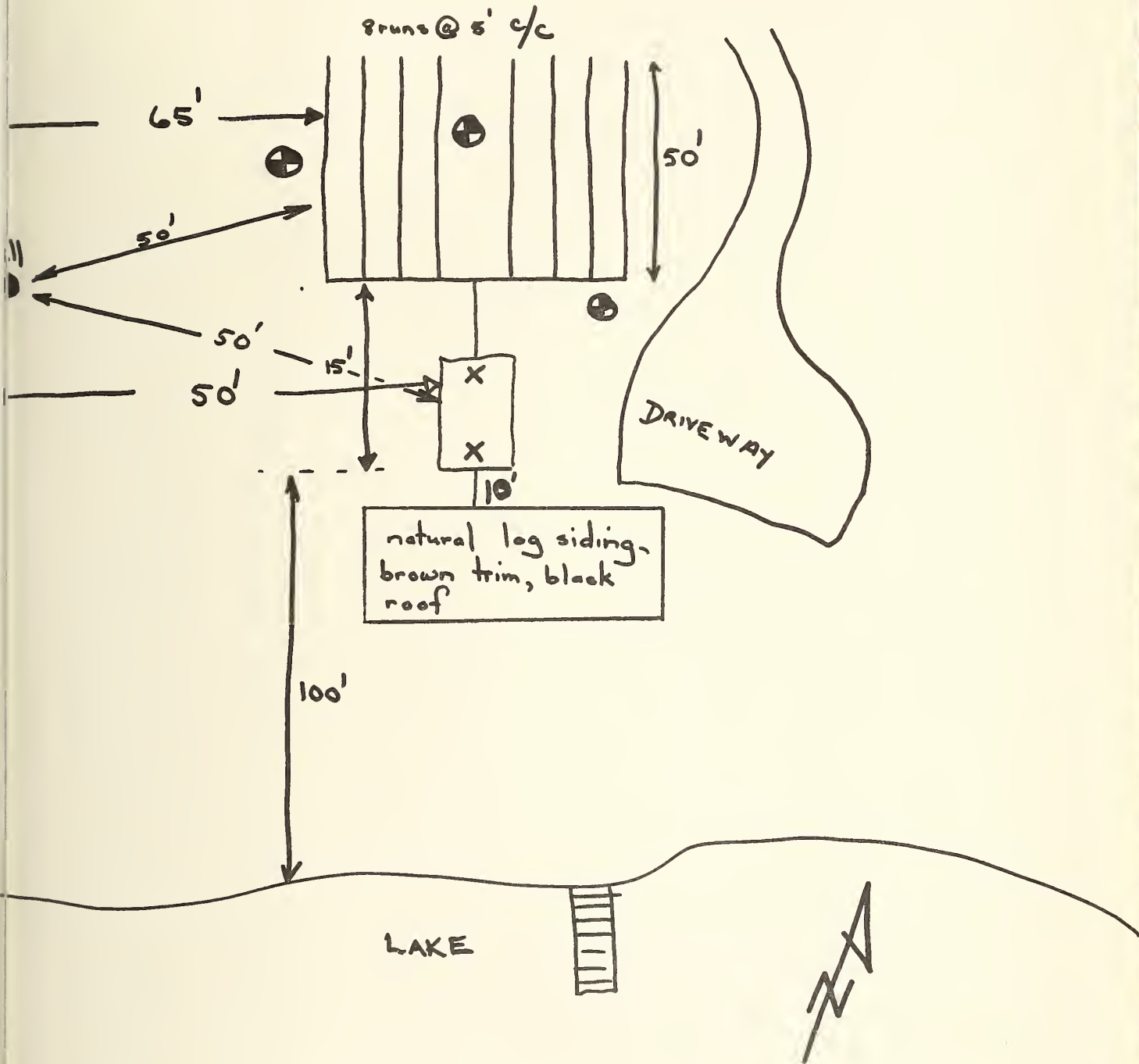
APPENDIX NO. 2

SKETCH

CTOR(S) PM
SM

ESTABLISHMENT SURVEY No. 00777

LAKE OR RIVER 760001



BORE HOLE THUS

NOTE PROBE LOCATION THUS

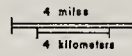
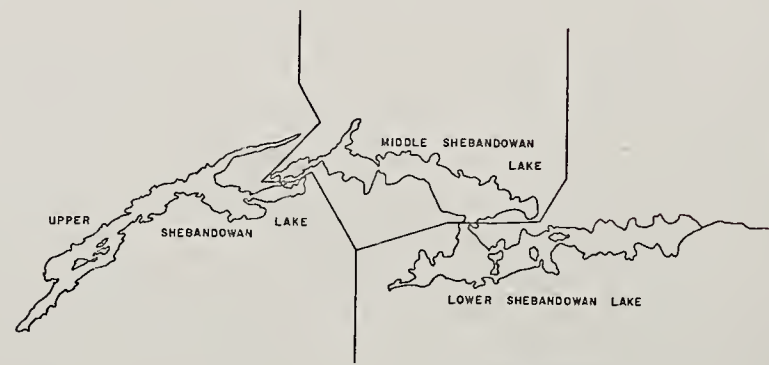
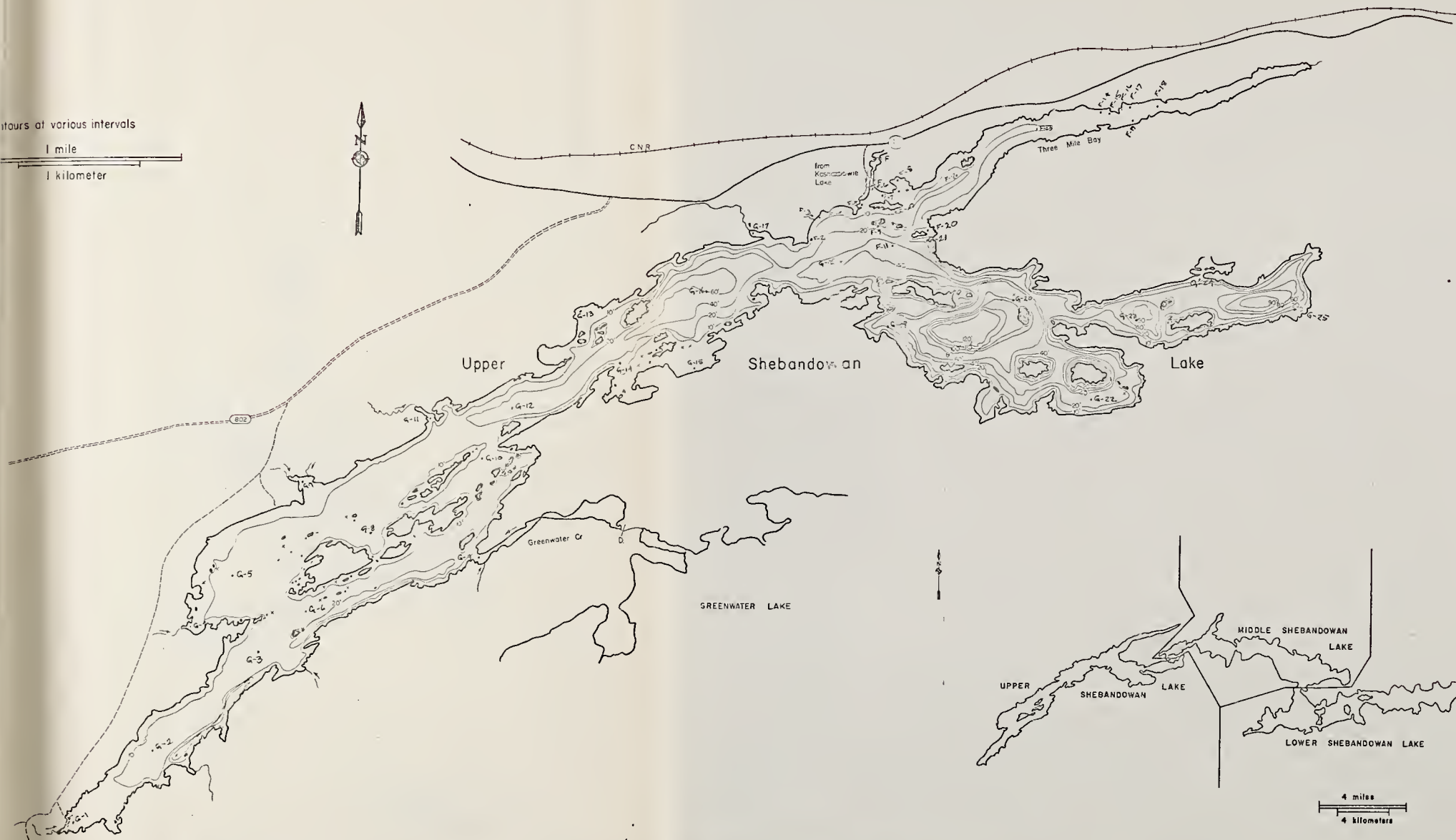
MARKS SUMMARY OF FINDINGS AND REASON(S) FOR CLASSIFICATION (BY INSPECTOR)

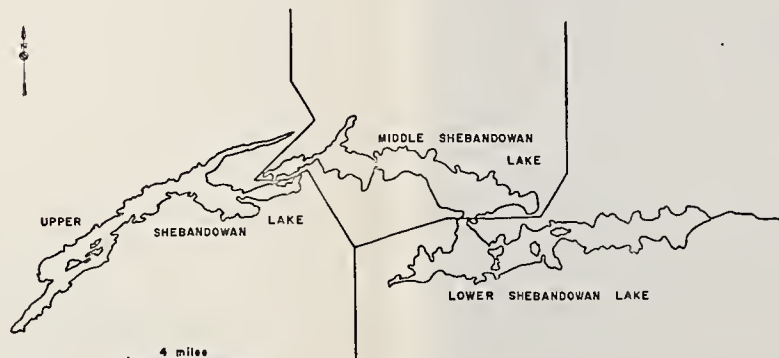
APPENDIX NO. 3

Contours at various intervals

1 mile

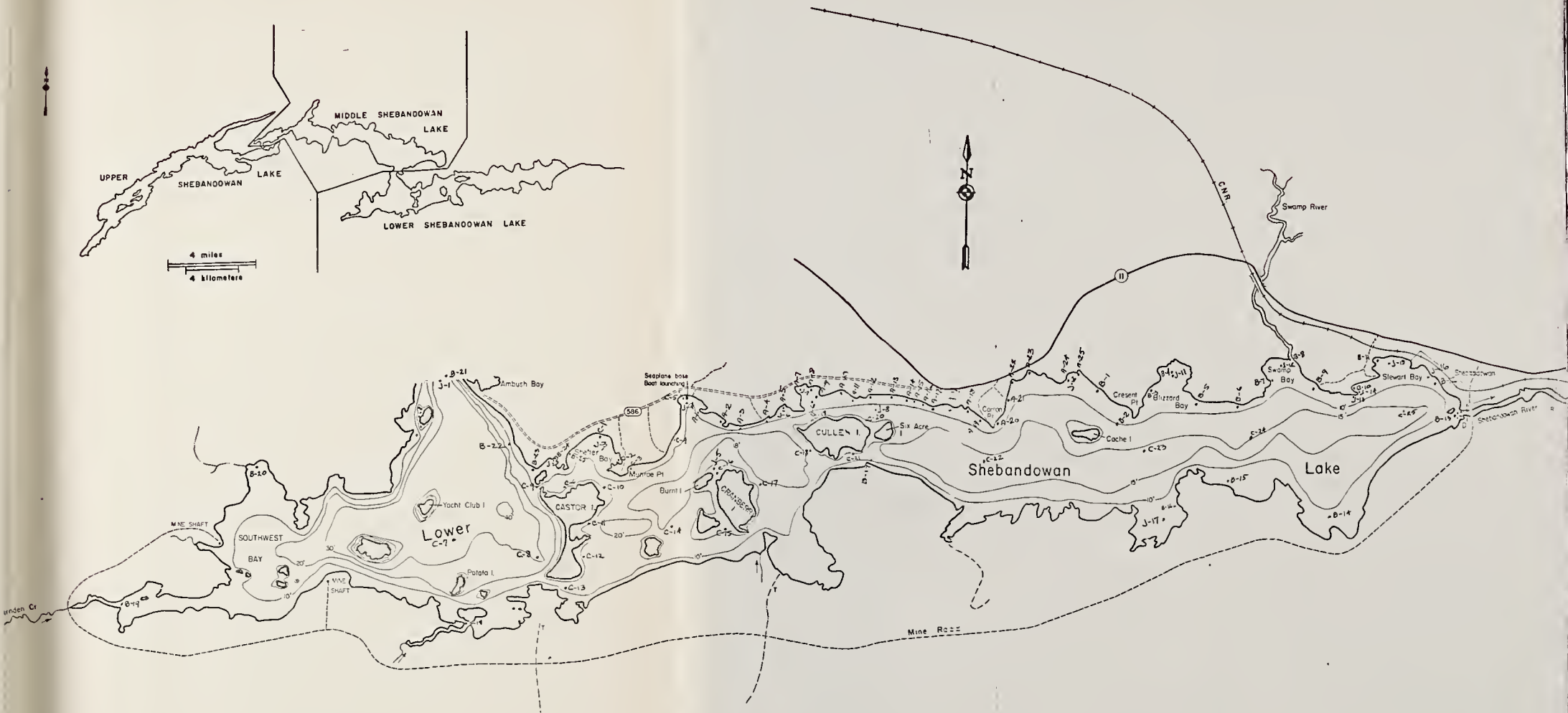
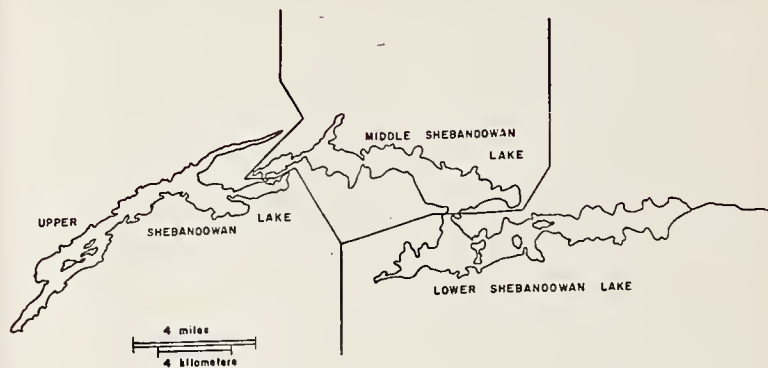
1 kilometer



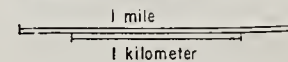


Contours at various intervals





Contours at various intervals



APPENDIX NO. 4

APPENDIX NO. 4

CONTROL SAMPLE RESULTS

- Total Coliforms/100 ml sample
- Fecal Coliforms/100 ml sample
- Fecal Streptococci/100 ml sample

(Definitions-App. 4, p9)

DATE SAMPLED

sample number	07/06/76			08/06/76			09/06/76		
	T	F	S	T	F	S	T	F	S
-1	20	0	0	12	0	0	12	0	0
-2	8	0	0	0	0	0	8	0	0
-3	4	0	0	0	0	0	16	0	4
-4	28	0	16	20	0	5400	16	0	0
-5	24	0	0	--	--	--	--	--	--
-4	28	0	16	20		540	16	0	0
-5	24	0	0	--	--	--	--	--	--
-6	12	0	0	8	4	0	8	0	0
-7	40	0	0	56	8	4	24	4	0
-8	28	0	0	8	0	0	4	0	0
-9	24	0	0	0	0	0	28	4	4
-10	8	0	0	0	0	0	16	0	0
-11	16	0	0	4	0	0	20	0	0
-12	0	0	0	4	0	0	0	0	0
-13	8	0	0	0	0	0	8	0	0
-14	4	0	0	0	0	0	12	4	0
-15	16	0	0	0	0	0	24	8	4
-16	20	0	0	0	0	0	36	0	0
-17	4	0	0	0	0	4	0	0	0
-18	28	0	0	0	0	0	12	0	0
-19	4	0	0	0	0	0	8	0	0
-20	24	0	0	0	0	0	0	4	4
-21	4	0	0	4	0	0	0	0	0
-22	24	0	0	0	0	0	0	0	0
-23	4	0	0	4	0	0	0	0	0
-24	20	4	4	0	0	0	4	0	0
-25	4	0	0	4	0	0	4	0	0

APPENDIX NO. 4 (Cont.)

Sample Number	DATE SAMPLED								
	14/06/76			15/06/76			16/06/76		
	T	F	S	T	F	S	T	F	S
E-1	12	0	0	8	0	4	20	8	0
E-2	0	0	0	4	0	0	16	0	0
E-3	60	0	2	36	0	0	30	0	0
E-4	20	4	0	24	0	0	20	4	0
E-5	32	0	0	24	0	0	8	0	0
E-6	8	0	0	20	4	4	16	0	0
E-7	16	0	4	--	--	--	8	0	0
E-8	36	0	168	76	12	96	144	0	112
E-9	72	4	156	8	0	0	16	0	0
E-10	12	0	0	16	8	32	4	0	0
E-11	4	0	4	12	0	0	16	0	4
E-12	16	0	0	20	4	0	12	0	0
E-13	16	0	4	4	0	0	16	0	0
E-14	--	--	--	0	0	0	40	4	16
E-15	--	--	--	0	0	0	0	0	16
E-16	--	--	--	4	0	0	40	0	12
E-17	8	0	0	32	0	0	4	0	8
E-18	4	0	0	4	0	4	20	0	0
E-19	48	0	0	156	0	4	176	0	0
E-20	24	0	0	0	0	0	4	0	0
E-21	0	0	0	16	4	0	4	0	0
E-22	0	0	0	0	0	0	0	0	0
E-23	4	0	8	0	0	0	0	0	0
E-24	0	0	0	28	8	12	20	0	4
E-25	4	0	0	52	0	20	48	0	4

APPENDIX NO. 4 (Cont.)

Sample number	DATE SAMPLED								
	21/06/76			22/06/76			23/06/76		
	T	F	S	T	F	S	T	F	S
C-1	136	0	8	8	0	2	44	4	12
C-2	64	4	4	12	0	0	0	0	4
C-3	16	0	4	0	0	0	4	0	8
C-4	12	4	4	4	0	4	4	0	0
C-5	44	0	4	4	0	6	8	0	0
C-6	20	0	0	0	0	0	8	0	0
C-7	0	4	0	0	0	0	0	0	0
C-8	0	0	0	0	0	0	0	0	0
C-9	0	0	0	4	0	0	4	0	0
C-10	20	0	0	8	0	0	0	0	4
C-11	0	4	0	0	2	0	0	0	0
C-12	4	0	4	0	0	2	0	0	0
C-13	8	0	0	4	0	0	4	0	0
C-14	0	0	0	0	0	0	4	0	0
C-15	4	0	0	0	0	0	0	0	0
C-16	16	0	4	0	2	0	0	0	0
C-17	4	0	0	0	0	0	0	0	0
C-18	4	0	0	0	0	0	0	0	0
C-19	4	0	0	4	0	0	4	0	0
C-20	4	0	0	0	0	0	8	4	0
C-21	12	4	0	0	0	0	24	0	8
C-22	0	0	0	0	0	0	0	0	0
C-23	4	4	0	56	0	6	0	0	0
C-24	8	8	0	52	2	6	0	0	0
C-25	8	0	0	4	0	6	0	0	0

APPENDIX NO. 4 (Cont.)

Sample Number	DATE SAMPLED								
	05/07/76			06/07/76			07/07/76		
	T	F	S	T	F	S	T	F	S
0-1	0	0	0	36	0	4	4	4	0
0-2	8	0	0	16	0	4	4	0	0
0-3	0	0	0	4	0	4	8	0	0
0-4	0	0	0	8	0	4	20	0	8
0-5	0	0	4	0	0	0	12	0	4
0-6	8	0	0	8	0	4	36	0	8
0-7	4	0	0	12	0	4	68	4	4
0-8	16	4	8	16	0	8	32	4	8
0-9	4	0	0	20	0	8	28	0	4
0-10	12	0	0	44	0	4	12	4	0
0-11	4	0	0	28	8	8	20	0	0
0-12	24	0	0	8	0	0	4	0	0
0-13	8	0	0	20	16	4	8	8	0
0-14	0	0	0	56	0	4	36	0	4
0-15	0	0	0	--	--	--	12	8	0
0-16	0	0	0	--	--	--	24	4	0
0-17	0	0	0	--	--	--	4	4	0
0-18	16	0	0	--	--	--	48	4	0
0-19	12	0	0	--	--	--	20	0	0
0-20	4	0	0	--	--	--	20	0	0
0-21	0	0	0	--	--	--	0	0	0
0-22	0	0	0	0	0	0	16	0	0
0-23	0	0	0	8	0	0	16	0	0
0-24	0	0	0	12	0	8	0	0	0
0-25	0	0	0	4	0	0	0	0	0
0-26	0	0	0	--	--	--	0	0	4
0-27	0	0	0	0	0	4	4	4	0
0-28	8	4	8	0	0	4	0	0	0
0-29	0	0	0	0	0	12	4	0	0
0-30	0	0	0	--	--	--	0	0	0

PPENDIX NO. 4 (Cont.)

Sample Number	DATE SAMPLED								
	12/07/76			13/07/76			14/07/76		
	T	F	S	T	F	S	T	F	S
E-1	0	0	0	8	0	2	0	0	0
E-2	0	0	0	24	0	4	4	0	0
E-3	0	0	0	12	0	2	0	0	2
E-4	8	0	0	20	2	12	0	0	6
E-5	20	0	0	20	2	2	12	0	4
E-6	0	0	0	8	0	0	0	0	0
E-7	84	0	0	188	0	6	72	0	0
E-8	0	0	0	16	0	0	0	0	0
E-9	0	0	0	8	0	0	0	0	0
E-10	0	0	0	16	0	0	4	0	0
E-11	12	0	0	4	0	0	4	0	0
E-12	0	0	0	8	2	6	4	0	0
E-13	0	0	0	8	0	0	8	0	0
E-14	0	0	0	8	0	0	4	0	0
E-15	0	0	0	4	0	2	8	2	0
E-16	20	0	12	16	8	18	4	0	0
E-17	0	0	0	8	0	0	4	0	4
E-18	0	0	0	4	2	0	0	0	0
E-19	4	0	0	0	0	0	4	0	0
E-20	0	0	0	0	0	0	8	0	0
E-21	4	0	0	4	2	0	12	0	0
E-22	4	0	0	20	2	0	0	0	0
E-23	40	0	0	8	0	0	0	0	0
E-24	0	0	0	12	0	0	8	0	0
E-25	0	0	0	28	0	2	0	0	0

PPENDIX NO. 4 (Cont.)

Sample Number	DATE SAMPLED								
	09/08/76			10/08/76			11/08/76		
	T	F	S	T	F	S	T	F	S
-1	4	0	0	56	0	10	8	0	2
-2	120	0	20	84	0	0	56	0	2
-3	188	2	0	184	0	12	48	0	0
-4	112	0	2	104	2	2	44	0	0
-5	176	0	8	120	4	4	84	0	8
-6	188	4	6	164	6	22	164	4	22
-7	76	6	10	144	2	12	88	4	6
-8	108	0	4	136	4	2	40	2	2
-9	12	0	4	12	0	0	16	2	0
-10	12	0	0	28	2	0	4	0	0
-11	16	0	0	0	0	0	8	0	0
-12	16	0	0	12	0	0	0	0	0
-13	0	0	0	4	0	2	32	0	0
-14	6	2	0	24	0	2	44	0	0
-15	84	2	0	72	0	2	44	0	0
-16	24	0	2	52	0	0	68	4	0
-17	24	0	0	56	0	2	32	0	4
-18	16	0	0	16	0	0	44	0	0
-19	12	0	0	20	2	2	32	0	0
-20	40	0	6	0	0	0	12	0	0

APPENDIX NO. 4 (Cont.)

Sample Number	DATE SAMPLED								
	16/08/76			17/08/76			18/08/76		
	T	F	S	T	F	S	T	F	S
-1	40	16	0	92	6	2	176	4	6
-2	12	0	2	28	0	0	16	0	0
-3	12	0	0	0	0	0	12	0	0
-4	20	2	0	32	4	0	180	0	0
-5	20	0	0	24	0	0	12	0	0
-6	8	0	2	0	0	0	4	0	0
-7	20	0	0	52	0	0	288	0	0
-8	24	0	0	0	0	0	0	0	0
-9	24	0	2	0	0	4	72	4	4
-10	0	0	0	0	0	0	12	0	0
-11	8	0	0	44	30	4	16	0	0
-12	4	0	0	0	0	0	4	0	0
-13	8	0	0	8	2	0	20	2	0
-14	8	0	2	0	0	0	8	0	0
-15	4	0	0	0	0	0	4	0	0
-16	0	0	4	0	0	0	4	0	0
-17	24	2	0	68	2	2	44	2	0
-18	0	0	0	0	0	0	0	0	4
-19	4	0	0	0	2	0	12	0	0
-20	0	0	0	0	0	0	12	0	0
-21	0	0	0	12	0	0	8	0	0
-22	0	0	0	8	0	0	12	0	0
-23	4	0	0	0	0	0	8	0	0
-24	0	0	0	0	0	0	12	0	2
-25	0	0	0	0	0	0	12	0	0

PENDIX NO. 4 (Cont.)

Sample Number	DATE SAMPLED								
	16/08/76			17/08/76			18/08/76		
	T	F	S	T	F	S	T	F	S
E-1	0	0	0	0	0	0	4	0	0
E-2	0	0	0	8	0	2	0	0	0
E-3	4	0	0	8	0	0	4	0	0
E-4	32	0	0	24	0	188	24	0	2
E-5	0	0	0	0	0	0	4	0	4
E-6	4	0	0	0	0	0	0	0	0
E-7	4	0	0	0	0	0	0	0	0
E-8	4	0	0	0	0	0	8	0	0
E-9	8	0	0	0	0	0	4	0	0
E-10	24	0	0	4	0	0	0	0	0
E-11	4	0	0	0	0	0	0	0	0
E-12	0	0	0	0	0	0	0	0	0
E-13	0	0	0	0	0	0	0	0	0
E-14	0	0	0	0	0	0	0	4	0
E-15	0	0	0	36	0	2	36	0	0
E-16	4	0	0	0	0	0	0	0	0
E-17	4	0	0	0	0	0	0	0	0
E-18	16	0	0	0	0	0	4	0	0
E-19	16	0	0	0	0	0	0	0	0
E-20	0	0	0	0	2	0	8	0	0
E-21	4	0	0	0	0	0	8	0	0
E-22	4	0	0	0	0	0	0	0	0
E-23	16	0	4	0	0	0	44	2	0
E-24	8	0	0	0	0	0	4	0	0
E-25	16	2	4	4	0	6	12	4	0

Sample Number	DATE SAMPLED					
	23/08/76			25/08/76		
	T	F	S	T	F	S
1	12	0	0	4	0	0
2	24	0	10	8	0	0
3	44	0	12	36	0	4
4	28	2	6	8	2	0
5	4	0	0	4	0	0
6	36	0	2	60	0	10
7	48	0	0	172	0	8
8	4	0	0	4	0	0
9	8	0	2	24	2	4
10	68	0	2	24	0	6
11	32	0	2	64	0	0
12	12	0	0	108	0	0
13	16	2	4	64	0	0
14	28	0	2	304	2	0
15	32	0	2	8	0	6
16	24	0	0	16	2	14
17	36	0	0	36	6	62

DEFINITIONS

1. Total Coliforms:- This group of bacteria comprises species that are commonly associated with fecal matter (human and animal) and normal inhabitants of soil
2. Fecal Coliforms:- These bacteria are mainly species associated with human and animal fecal matter and indicate a relatively recent pollution input
3. Fecal Streptococci:- This group of bacteria is largely associated with fecal pollution from animals and to a lesser extent man

APPENDIX NO. 5

APPENDIX NO. 5

Classification System - 1976

1. Satisfactory

A satisfactory system is one which meets the standards of good design, construction and location and is not polluting; specifically, there is no evidence of pollution past or present. There are no known significant defects in design, construction, or location of sewage or refuse disposal systems. There is no public health nuisance. It is not potentially polluting.

2. Satisfactory Performance

This is a system (or systems) performing satisfactorily at the time of inspection. All parts of the system are reasonably close to the minimum required distance of 50 feet from the lake or stream, i.e. weeping tile beds, leaching pits, dry wells, privies. No visible signs of sewage surfacing are evident, no public health nuisance exists. There may be a lack of specific information, i.e. "owner does not know exact size of septic tank or weeping tile bed". This classification may include some systems that do not meet present day size requirements but are being used in such a manner as to reduce the risk of overloading. For example, an owner may have a 200 gallon septic tank but only use it for a low volume flush toilet. In short, this classification was used for systems which were not up to the standards set for a satisfactory but appeared in all other respects a safe system and not likely to cause pollution.

3. Substandard

This is a system (or systems) having a defect which may cause the system to malfunction in the future causing either a public health nuisance, danger of pollution,

or inconvenience to the owner. Examples would be undersized systems, or systems which become increasingly overloaded as they are used during the season. Also this classification includes a multitude of minor problems not included in other classifications, such as lack of screening on pit privy openings, or the presence of holes along the ground surface of pit privies which would allow access of vermin.

4. Nuisance (Wash Water)

This is a system (or systems) causing wash water to be exposed on the surface of the ground either directly through a waste pipe or escaping from a leaching pit or other means of disposal. Examples would be the waste pipe from a sink, bath, shower, wash basin, wash tubs, washing machines, etc., discharging on the surface of the ground.

Included in the above classification were saunas which contained pressure water systems and no method of disposing of the waste waters created.

5. Nuisance (Toilet and Solid Waste)

This is a system or systems causing a waste containing fecal and/or urinary discharges to be exposed on the surface of the ground either directly through a pipe or escaping from some part of a sewage disposal system including privies. Included in this classification is solid waste or garbage of a kind which can cause a nuisance, example, domestic garbage containing food stuffs, articles of personal hygiene such as used paper hankies, napkins, etc.

6. Direct Pollutor

This is a system (or systems) described as follows:

- (a) visible drainage of sewage (including toilet, kitchen, laundry, sink, bath or shower waste) or leachate of solid wastes into surface water of lake or river or into groundwater either by ditch, channel, pipe or directly over the ground surface,

- (b) bacteriological, chemical or physical proof of sewage polluting the lake or river,
- (c) proof of pollution resulting from tracer tests.
- (d) pit or pit privy penetration below the ground water table,
- (e) deposit of refuse directly or leachate into the lake or river.

7. Unclassified (Temporarily)

This is a system (or systems) which requires further inspection by the program supervisor who will attempt to make a final classification after a thorough investigation.

8. Unclassified

This is a system (or systems) where it is not possible at the end of the survey to make a classification at that time. Usually, this includes abandoned or ruinous premises or establishments under construction where the owner has not established what fixtures he may have in the cottage.

APPENDIX NO. 6



Ontario

DISTRICT OFFICE,
435 JAMES ST. SOUTH.
THUNDER BAY, ONT. P7E 6E3.

MINISTRY OF THE ENVIRONMENT

COTTAGE POLLUTION CONTROL PROGRAM
POLLUTION ABATEMENT REPORT

LAKE _____ ESTABLISHMENT NO. _____ SUB-EST. NO. _____

The above establishment was visited by _____

_____, 19 _____.

The matters listed below were discussed with

_____ Establishment Owner

CONCLUSIONS, AGREEMENT AND FINAL REPORT

Conclusions:—

Abatement Advisor

I am in agreement with the above findings and will undertake to have
the work completed by _____

Owner: _____

Date: _____

Final Inspection Report:—

Abatement Advisor

OWNER'S COPY

APPENDIX NO. 7



Ontario

Ministry of the
Environment

Northwestern
Region

Ontario Government Building
P.O. Box 5000
435 James Street South
Thunder Bay, Ontario
P7C 5G6
Telephone: 807/475-1205

N O T I C E

RE: COTTAGE POLLUTION CONTROL PROGRAM
ESTABLISHMENT NO.
SHEBANDOWAN LAKE NO.

In the interests of preserving our recreational waters, a survey of cottage waste disposal systems is being conducted to determine their adequacy. In order to make the program as effective as possible, it is necessary to inspect all cottage lots on the lakes being surveyed.

Several attempts have been made to contact you while you were at the cottage but all have been unsuccessful; therefore, it has been necessary for us to conduct the survey of your cottage lot while you were absent.

As it is not possible to obtain all of the required information during the cottager's absence, I would ask that you contact me to provide us with the information necessary to complete the survey of your premises. I may be contacted either at the Ministry of Natural Resources Camp at Shebandowan (926-2182) or at my office in Thunder Bay (475-1305).

The above establishment and lake identification numbers have been assigned to your premises and it would be appreciated if you would refer to them when you contact me.

D. A. Jones
Environmental Officer
Municipal & Private Abatement Section

APPENDIX NO. 8

DEFINITIONS

Establishment

Any camp, or group of camps owned by one owner, which could include several pieces of adjacent property.

Sub-establishment

This included sleeping cabins, and additional camps owned by one owner on adjacent properties. For example, Cedar Hill Resort was counted as one establishment but there were 15 sub-establishments on the property.

Shebandowan Lakes

LAKE	ESTABLISHMENTS	SUB-ESTABLISHMENTS
Lower Lake Shebandowan	247	73
Middle Lake Shebandowan	198	58
Upper Lake Shebandowan	<u>21</u>	<u>12</u>
Totals	466	143

Total establishments and sub-establishments inspected: 609

Establishment Classifications

(Final)

Classification Number	Number of Classifications	Percentage of Totals
1	76	16
2	88	19
3	186	40
4	86	19
5	6	1
6	10	2
7	0	0
8	14	3

APPENDIX NO. 8 (Cont.)

Establishment Classifications (Final) (Cont.)

Classification Number	Number of Classifications	Percentage of Totals
Lower Lake Shebandowan		
1	37	15
2	57	23
3	97	40
4	41	17
5	3	1
6	6	2
7	0	0
8	6	2
Middle Lake Shebandowan		
1	38	19
2	29	14
3	80	40
4	42	21
5	3	2
6	3	2
7	0	0
8	3	2
Upper Lake Shebandowan		
1	1	5
2	2	9
3	9	43
4	3	14
5	0	14
6	1	0
7	0	5
8	5	24

APPENDIX NO. 8

Abatement Required

	Number	%
Classification 3 (no follow-up)	186	40
Classification 4 (follow-up required)	86	18
Classification 5 (follow-up required)	6	1
Classification 6 (follow-up required)	10	2

APPENDIX NO. 9



Ontario

Ministry of the
Environment

Northwestern
Region

Ontario Government Building
P.O. Box 5000
435 James Street South
Thunder Bay, Ontario
P7C 5G6
Telephone: 807/475-1205

Dear

Re: Bacteriological Report of Drinking Water
Your Premises on

The bacteriological analysis of the drinking water sample recently taken during the Cottage Pollution Control Program revealed the following adverse conditions:

COLIFORMS

FECAL
COLIFORMS

FECAL
STREPTOCOCCI

The desirable criteria for all of the above organisms in an untreated water supply is zero.

In view of the fact that this is the result of a single sample, it is suggested that further sampling be done immediately to verify the results. Sample bottles may be obtained from the Ministry of the Environment Laboratory, 411 Donald Street, Thunder Bay, Ontario upon presentation of this letter to any of the laboratory staff.

If upon further sampling these adverse results are substantiated, it would be advisable to disinfect your water supply or boil it prior to consumption.

The following procedure is a guide which may be followed in an attempt to disinfect your water supply.

Suggestions for Producing Safe Well Water

- (a) Contaminated water supply is unsafe for human or animal consumption unless it is sterilized by boiling for 5 minutes or chemically disinfected by chlorination. The water source (spring, well, etc.) should be inspected for access routes of polluting materials (eg. surface soil, runoff following rain, priming water, or deteriorated well casings). These access routes should be permanently removed. Following correctionary measures, the supply sources should be chlorinated, allowing the chlorine content period of approximately 6 hours, then flushed, but not into a septic tank.

Apply a chlorinated laundry bleach in sufficient quantity to disinfect the entire volume of water in the well. The amount of chlorine bleach (strength assumed is 5% available chlorine) may be calculated from the table below knowing the diameter of the well and the depth of water.

CHLORINE BLEACH PER 10 FOOT
DEPTH OF WATER

<u>Diameter of Well Casing in Inches</u>	<u>1-10 Coliforms *</u>	<u>More than 10 Coliforms **</u>
4	0.5 ounces	1 ounce
6	1 ounce	2 ounces
8	2 ounces	4 ounces
12	4 ounces	8 ounces
16	7 ounces	14 ounces
20	11 ounces	22 ounces
24	16 ounces	31 ounces
30	25 ounces	49 ounces
36	35 ounces	70 ounces

* - Dosage rate = 25 ppm

** - Dosage rate = 50 ppm

Another sample should be analyzed after one week of use. Attempts at disinfecting the water source without inspecting it, removing the excess routes or contamination may not supply bacteriologically safe water on a continuing basis.

Yours truly,

D. A. Jones
Environmental Officer
Municipal & Private Abatement Section

DAJ:kjp



